

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) Tracking system for flat mobile antenna, comprising ~~of~~ sensors for angular velocity ~~(1)~~, ~~which to~~ sense the rotation of the antenna around its axes; inclination sensors for measuring the inclination of the antenna toward a vertical axis ~~(2)~~; a control block ~~(3)~~, ~~which calculates to calculate~~ necessary corrections of the direction of antenna beam, ~~which is the control block being connected to outputs of the sensors for angular velocity and the inclination sensors (1, 2) and with to inputs of a driving block (4) and a block for electronic beam control (5);~~ at least one motor ~~(7)~~, for changing the orientation of the antenna, ~~which is the motor being connected with to the output of the driving block (4) and with to an antenna panel (8); and the block for electronic beam control (5), which is being connected with to the antenna panel (8); power supply block, which converts the voltage from the electrical network of the vehicle into suitable values for providing power supply to all blocks of the system.~~
2. (Currently Amended) A system as claimed in 1, wherein the angular velocity sensors comprise three angular velocity sensors, (1a, 1b and 1c) are used, which are collinear to the axes of Cartesian coordinate system; and fixed with the antenna panel (8).
3. (Currently Amended) A system as claimed in 2, wherein using the a forward coordinate transformation is performed with information from the three angular velocity sensors (1a, 1b and 1c) a forward coordinate transformation is performed for obtaining to obtain necessary corrections of azimuth and elevation of the antenna panel (8) as well as and reverse coordinate transformation for applying corrections of offsets of the three angular velocity sensors (1a, 1b, 1c).
4. (Currently Amended) A system as claimed in 2, wherein axes of two of the angular velocity sensors lie in a the plane; in which wherein the beam of the antenna panel (8) is tilted, while and the axis of the third angular velocity sensor is orthogonal to this the plane.

5. (Currently Amended) A system as claimed in 1, wherein the antenna panel ~~(8)~~ performs mechanical scanning by one axis, while the antenna beam is positioned by electronic control at a fixed position at the other axis, and the signal strength from two or more positions in a close proximity to direction towards the satellite is used for calculation of correction of offsets of the angular velocity sensors ~~(1a, 1b, 1c)~~ and for fine adjustment in orientation of the antenna beam by the block for electronic beam control ~~(5)~~.

6. (Currently Amended) A system as claimed in 5, wherein the block for electronic beam control ~~(5)~~ holds the beam, ~~which is closest to current satellite direction for maximum allowable time, while holding and holds the beam in the neighboring positions is for minimal time, which provides to provide~~ minimum decreasing of average strength of received signal.

7. (Currently Amended) A system as claimed in 1, ~~wherein further comprising applying an additional correction of offsets of two angular velocity sensors (1a, 1b), which wherein the axes lie in a plane, coplanar or near coplanar to a horizontal plane, is applied.~~

8. (Currently Amended) A system as claimed in 7, wherein the output values of the two angular velocity sensors ~~(1a, 1b)~~, ~~which having the~~ axes lie in a plane, coplanar or near coplanar to horizontal plane, are integrated for a certain time interval, and when ~~the a~~ result from integration is positive the offset of corresponding sensor ~~(1a, 1b)~~ is corrected by a certain step in positive direction or when ~~the a~~ result from integration is negative the offset of corresponding sensor ~~(1a, 1b)~~ is corrected by a certain step in a negative direction.

9. (Currently Amended) A system as claimed in 7, wherein the output values of the two angular velocity sensors ~~(1a, 1b)~~, ~~which having the~~ axes lie in a plane, coplanar or near coplanar to horizontal plane, are converted into angular velocities, ~~which having vectors that lie in the horizontal plane, which and having angular velocities are integrated for obtaining inclination angles of axes of aforementioned the two angular velocity sensors, and wherein obtained inclination angles are compared with measurements from inclinometers (2), which to sense the~~

inclination of ~~aforementioned the~~ axes toward horizontal plane, and ~~the a~~ result from this comparison is used for adjustment of offsets of ~~aforementioned the two~~ angular velocity sensors (1a, 1b).